

Amendments to the Drawing

The attached sheet of drawings includes Figure 1. This sheet, which includes Fig. 1 replaces the original sheet including Fig. 1. In Fig. 1, the previously omitted phrase "Prior Art" has been added.

Attachment: One Replacement Drawing Sheet (1 page).

REMARKS

The drawings were objected to as failing to comply with 37 CFR 1.121(d). Claim 12 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art of Figure 1 (hereinafter "AAPA"), in view of U.S. Patent No. 1,783,762 to Yarnall et al. (hereinafter "Yarnall") further in view of U.S. Patent No. 6,244,295 to Bartussek et al. (hereinafter "Bartussek").

Fig. 1 of the drawings is hereby amended to include the label "Prior Art." Claim 12 is hereby canceled without prejudice.

Reconsideration of the application based on the following remarks is respectfully requested.

Drawing Objections

The drawings were objected to as failing to comply with 37 CFR 1.121(d). Figure 1 is hereby amended to include the legend "Prior Art." The amended drawing is submitted concurrently herewith on a Replacement Drawing Sheet.

Withdrawal of the objection to the drawings is respectfully requested.

35 U.S.C. §112 Rejections

Claim 12 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement.

By this amendment, claim 12 is canceled and thus the rejection is moot.

Withdrawal of the rejection of claim 12 under 35 U.S.C. §112, first paragraph is respectfully requested.

35 U.S.C. §103 Rejections

Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, in view of Yarnall, further in view of Bartussek.

AAPA discloses a flow control valve piston shown in Fig. 1 and disclosed in the present application in paragraph [0013].

Yarnall discloses a valve having an inlet 17, an outlet 18 and a channel 19 that permits passage of a fluid from inlet 17 to the interior of the valve, and a plunger 23 which moves up and down in the interior of the valve, under the control of wheel 22, to selectively set the flow of fluid from inlet 17 to outlet 18. (Fig. 1, Col. 2, lines 67 to 80).

Bartussek discloses “a check valve for an oil circulation system.” (Col. 1, lines 1 to 2). “The check valve of the invention is preferably provided in a piston pump, in particular as an inlet valve and/or an outlet valve of the piston pump.” (Col. 1, lines 46 to 48). The piston pump is in a vehicle brake system. In Fig. 5 a piston valve is shown having the check valve. In particular, a driven piston 58 moves in a bush 60 mounted in housing 62. The piston 58 has an unlabeled groove which connects to an aperture in bush 60 and thus to inlet bore 72. (Fig. 5 and Col. 1, lines 48 to 50).

Claim 7 recites “pump comprising:

a flow-control valve device including a piston displaceably accommodated within a piston bore, the piston bore having at least one inflow channel and at least one outflow channel, and the piston having an axial inflow orifice and a plurality of radial, lateral outflow orifices and a circumferential outflow groove disposed between a first collar and a second collar, the second collar forming a control edge for an outflowing fluid flow,

the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge.”

AAPA, Yarnall and Bartussek fail to teach or show an “axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices” as required by claim 7. The Office Action, on page 4, cites to Yarnall for disclosing this limitation. However, reference no. 18 of Yarnall is not “an axial inflow orifice” but rather an “outlet.” Reference no. 26 of Yarnall is not a “radial outflow orifice” but rather “apertures” of the inlet channel 19. Thus, since none of the cited references disclose or teach the invention claimed by 7, claim 7 and claims 8 to 11 and 13, dependent on claim 7, are not unpatentable as obvious over the cited prior art. Furthermore, the “control edge” of claim 7 is the edge that spans the aperture in the

housing (bush). Bartussek fails to teach such a control edge, thus Bartussek does not disclose the claimed circumferential outflow groove.

Finally, even if all limitations of the claim were met by the combination of AAPA, Yarnall and Bartussek, which they are not, there is no reason or motivation that one of ordinary skill in the art would have to combine these references. AAPA discloses a flow control valve device for a pump, preferably a power-steering pump. Yarnall discloses a simple manually operated valve. Bartussek discloses a non-return valve used in a piston pump for an automobile brake system. There is no reason or motivation that one of ordinary skill in the art would modify a pump used for power steering in the AAPA based on the teachings of the simple valve taught in Yarnall and the check valve for a braking system taught in Bartussek. This is another reason why claim 7, and claims 8 to 11 and 13 dependent on claim 7, are not unpatentable as obvious over the cited prior art.

Withdrawal of the rejection of independent claim 7, and claims 8 to 11 and 13 which directly and indirectly depend on claim 7, under 35 U.S.C. §103 is respectfully requested.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,
DAVIDSON, DAVIDSON & KAPPEL, LLC

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By: _____

Cary S. Kappel (Reg. No. 36,561)

Davidson, Davidson & Kappel, LLC
485 Seventh Avenue, 14th Floor
New York, New York 10018
(212) 736-1940